CLAIM LISTING

This listing of claims will replace all prior versions, and listings of claims in the application:

IN THE CLAIMS

1. (Currently Amended) A method for channel bonding a plurality of communications channels comprising:

receiving a first master alignment marker;

receiving a first slave alignment marker;

receiving a second master alignment marker;

receiving a second slave alignment marker;

developing a model of skew based on the first and second master alignment markers and the first and second slave alignment markers;

developing a model of skew in a slave channel based on the first and second master alignment markers and the first and second slave alignment markers; and

at a time determined by the slave channel, aligning the slave channel based on the developed model of skew.

2. (Canceled)

3. (Currently Amended) The method of claim 1 further comprising assuming the first master alignment marker leads the first slave alignment marker.

4. (Currently Amended) The method of claim 1 further comprising assuming the first master alignment marker lags the second slave alignment marker.

5. (Original) The method of claim 1 wherein the model of skew indicates a skew value and a stable count.

6. (Original) The method of claim 1 wherein aligning the slave channel comprises adjusting a pointer in an elastic buffer of the slave channel.

7. (Original) The method of claim 6 wherein the pointer is a read pointer in the elastic buffer of the slave channel.

8. (Original) The method of claim 6 wherein adjusting the pointer in the elastic buffer of the slave channel comprises moving the pointer a number of bytes equal to a skew value of the model of skew.

9. (Original) The method of claim 6 further comprising:

if channel alignment is lost, canceling the adjustment to the pointer in the elastic buffer of the slave channel.

10. (Original) The method of claim 6 wherein the model of skew is not affected by the adjustment to the pointer.

11. (Original) The method of claim 1 wherein a skew value of the model of skew is greater than one-half of a minimum distance between consecutive alignment markers.

12. (Original) The method of claim 1 further comprising:

dividing a data word to be transmitted into a plurality of bytes; and

transmitting each byte of the plurality of bytes in a separate communications channel of the plurality of communications channels.

13. (Currently Amended) A method for developing a model of skew in a channel bonded communications channel comprising:

waiting for a first leading alignment marker;

waiting for a first lagging alignment marker; ~~and~~

measuring a first skew value between the first leading alignment marker and the first lagging alignment marker.

storing the first skew value;

waiting for a second leading alignment marker;

waiting for a second lagging alignment marker;

measuring a second skew value the second leading marker and the second lagging marker; and

comparing the second skew with the stored first skew value.

14. (Currently Amended) The method of claim 13 wherein the step of measuring the first skew value comprises counting a number of clock cycles between the first leading alignment marker and the first lagging alignment marker.

15. (Currently Amended) The method of claim 13 wherein the first leading alignment marker is from a master channel and the first lagging alignment marker is from a slave channel.

16. (Currently Amended) The method of claim 13 wherein the first leading alignment marker is from a slave channel and the first lagging alignment marker is from a master channel.

17. (Canceled)

18. (Currently Amended) The method of claim [[17]] 13 further comprising:

if the stored first skew value equals the second skew value, incrementing a stable count value; and

if the stored first skew value does not equal the second skew value, storing the second skew value and resetting the stable count value.

19. (Currently Amended) The method of claim 13 further comprising:

waiting for a minimum period before waiting for the first lagging alignment marker.

20. (Currently Amended) A communications system comprising:

a master channel having a master buffer;

a slave channel having a slave buffer; and

control logic for developing a model of a skew between the master channel and the slave channel;

wherein the control logic comprises:

a plurality of skew model blocks for developing a plurality of models of the skew between the master channel and the slave channel; and

an arbiter for choosing one of the plurality of skew model blocks.

21. (Original) The communications system of claim 20 further comprising:

adjustment logic for adjusting a pointer in an elastic buffer of the slave channel based on the developed model of skew, wherein the adjustment logic adjusts the pointer in the elastic buffer of the slave channel at a time determined by the slave channel.

22. (Original) The communications system of claim 20 wherein the control logic comprises a finite state machine.

23. (Original) The communications system of claim 20 wherein the control logic comprises a microprocessor.

24. (Canceled)

25. (Currently Amended) The communications system of claim [[24]] 20 wherein the arbiter chooses a skew model block predicting the smallest skew.

26. (Currently Amended) The communications system of claim [[24]] 20 wherein the arbiter chooses a skew model block having a non-zero stable count.

27. (Currently Amended) The communications system of claim [[24]] 20 wherein after all but one skew model block has failed, the arbiter chooses the one skew model block that has not failed.

28. (Currently Amended) The communications system of claim [[24]] 20 wherein the arbiter chooses a skew model block based on known characteristics of the communications system.

29. (Currently Amended) The communications system of claim 20 wherein the ~~control logic~~ plurality of skew model blocks comprises:

a first skew model block for developing a first model of the skew between the master channel and the slave channel; and

a second skew model block for developing a second model of the skew between the master channel and the slave channel; and

wherein the [[an]] arbiter ~~for choosing~~ chooses one of the first and second skew model blocks.

30. (Original) The communications system of claim 29 wherein the first skew model block develops the first model of the skew between the master channel and the slave channel based on an assumption that the master channel leads the slave channel.

31. (Original) The communications system of claim 30 wherein the second skew model block develops the second model of the skew between the master channel and the slave channel based on an assumption that the master channel lags the slave channel.

32. (Original) The communications system of claim 20 wherein the slave channel comprises a plurality of slave channels, each having a slave buffer, and wherein each slave channel comprises control logic for developing a model of a skew between the master channel and the slave channel.